CLAIMS

1. A color correction apparatus comprising:

a color correction means for making a color correction

5   to an input image signal; and

a color gamut compression means for performing color gamut compression on the color-corrected input image signal based on data describing color reproduction characteristics so that the color-corrected image data outputted from said color

10 correction means has a chromaticity range which is contained in a color reproduction region which is based on said color reproduction characteristics.

2. The color correction apparatus according to Claim 1,

15 characterized in that said color correction means is provided with a color reproduction correction means for converting a chromaticity range of the input image signal based on the data describing the color reproduction characteristics.

20   3. The color correction apparatus according to Claim 1, characterized in that said color correction means is provided with a hue conversion means for converting a hue of the input image signal based on data describing the hue to be converted and an amount of adjustment.

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4. The color correction apparatus according to Claim 1, characterized in that said color gamut compression means performs the color gamut compression on the color-corrected input image signal based on data describing color reproduction

30 characteristics of a color image display apparatus.

5. The color correction apparatus according to Claim 1, characterized in that said color gamut compression means determines a hue of the image data converted by said color

5 correction means, acquires both a chromaticity range indicating said color reproduction characteristics corresponding to a hue of the input image signal, and a chromaticity range indicating said color reproduction characteristics corresponding to the hue of the image data converted by said color correction means

10 based on the data describing the color reproduction characteristics, determines a convergence point from both a color reproduction region defined by the chromaticity range indicating said color reproduction characteristics corresponding to the hue of said input image signal, and a color

15 reproduction region defined by the chromaticity range indicating said color reproduction characteristics corresponding to the hue of the image data converted by said color correction means, and performs the color gamut compression on the color-corrected image data outputted from

20 said color correction means in a direction of said convergence point.

6. The color correction apparatus according to Claim 5, characterized in that said color gamut compression means

25 acquires the chromaticity range indicating the color reproduction characteristics corresponding to the hue of the input image signal and the chromaticity range indicating the color reproduction characteristics corresponding to the hue of the image data converted by said color correction means, when

30 the color reproduction region defined by the chromaticity range

indicating the color reproduction characteristics corresponding to the hue of said input image signal and the color reproduction region defined by the chromaticity range indicating the color reproduction characteristics

5   corresponding to the hue of said converted image data are expressed in a color space, determines a point of intersection where the color reproduction region for the hue of said input image signal and the color reproduction region for the hue of said converted image data intersect in a plane showing value

10   and saturation, determines a convergence point having a value equal to that of said point of intersection and being on a value axis showing said color space, and compresses the color reproduction region for the hue of said input image signal toward said convergence point.

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      7. The color correction apparatus according to Claim 5, characterized in that said color gamut compression means acquires the chromaticity range indicating the color reproduction characteristics corresponding to the hue of the

20   input image signal and the chromaticity range indicating the color reproduction characteristics corresponding to the hue of the image data converted by said color correction means, when the color reproduction region defined by the chromaticity range indicating the color reproduction characteristics

25   corresponding to the hue of said input image signal and the color reproduction region defined by the chromaticity range indicating the color reproduction characteristics corresponding to the hue of said converted image data are expressed in a color space, determines a point of intersection

30   where the color reproduction region for the hue of said input

image signal and the color reproduction region for the hue of
said converted image data intersect in a plane showing value
and saturation, defines an arbitrary point on a straight line
connecting said point of intersection with the chromaticity

5   range indicating the color reproduction characteristics of the
hue indicated by said converted image data, determines a
convergence point having a value equal to that of said arbitrary
point and being on a value axis showing said color space, and
compresses the color reproduction region for the hue of said

10   input image signal toward said convergence point.

8. The color correction apparatus according to Claim 1,
characterized in that said color gamut compression means
acquires a chromaticity range indicating first color

15   reproduction characteristics of a hue of the input image signal
based on data indicating the first color reproduction
characteristics and describing color reproduction
characteristics of a color image display apparatus, acquires
a chromaticity range indicating second color reproduction

20   characteristics data of a hue indicated by the image data
converted by said color correction means based on data
indicating the second color reproduction characteristics and
describing color reproduction characteristics of an original
image showing a color tone of a visually-identified image,

25   acquires a convergence point from both a color reproduction
region defined by the chromaticity range indicating the first
color reproduction characteristics of the hue of said input
image signal, and a color reproduction region defined by the
chromaticity range indicating the second color reproduction

30   characteristics data of the hue indicated by said corrected

image data, and compresses the color reproduction region defined by the chromaticity range indicating the first color reproduction characteristics of the hue of said input image signal toward the convergence point.

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9. The color correction apparatus according to Claim 1, characterized in that said color correction means acquires color adjustment data describing both a hue to be value-converted and an amount of adjustment for value, and has

10   a value conversion means for convert a value indicated by the input image signal based on said color adjustment data, and said color gamut compression means acquires a chromaticity range indicating color reproduction characteristics of a hue of the input image signal based on the data describing the color

15   reproduction characteristics, acquires a value-converted chromaticity range with reference to a look-up table in which a hue value-converted by said value conversion means is described, acquires a convergence point from both a color reproduction region defined by the chromaticity range

20   indicating the color reproduction characteristics of the hue of said input image signal and a color reproduction region defined by said value-converted chromaticity range, and compresses the color reproduction region defined by the chromaticity range indicating the color reproduction

25   characteristics of the hue of said input image signal toward the convergence point.

10. The color correction apparatus according to Claim 9, characterized in that said value conversion means determines

30   both a value of a hue selected by a user and a value of a hue

in a vicinity of the selected hue using a value look-up table in which a value-converted value is described.

11. The color correction apparatus according to Claim 9,
5   characterized in that said color correction means is provided with a chromaticity range conversion means for transforming a value axis indicating a color space, and said color gamut compression means acquires a convergence point on the value axis which is converted by said chromaticity range conversion means
10   from both the color reproduction region defined by the chromaticity range indicating the color reproduction characteristics of the hue of the input image signal expressed in said color space and the color reproduction region defined by the value-converted chromaticity range.
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12. A color correction apparatus comprising: a saturation conversion means for converting a saturation of an input image signal based on both color adjustment data describing both a hue to be saturation-converted and an amount of adjustment, and
20   color reproduction characteristics data describing color reproduction characteristics of a color image display apparatus.

13. A color correction method comprising:
25   a step of converting a hue indicated by image data using a hue conversion means;

a step of converting a value indicated by the image data acquired from said hue conversion means using a value conversion means;
30   a step of converting a saturation indicated by the image

data acquired from said value conversion means based on color reproduction characteristics data describing color reproduction characteristics of a color image display apparatus using a saturation conversion means; and

5   a step of carrying out color gamut compression so that the image data acquired from said saturation conversion means has a chromaticity range which is contained in a color reproduction region which is based on said color reproduction characteristics using a color gamut compression means.